UNITED STATES
CIVILIAN BOARD OF CONTRACT APPEALS

GRANTED IN PART: July 23, 2007

CBCA 5, 763

BEYLEY CONSTRUCTION GROUP CORPORATION,

Appellant,

v.

DEPARTMENT OF VETERANS AFFAIRS,

Respondent.

Eileen M. Rivera-Amador of Nevares & Sánchez-Alvarez, PSC, San Juan, PR, counsel for Appellant.

Kenneth B. MacKenzie, Charlma J. Quarles, and Phillipa L. Anderson, Office of the General Counsel, Department of Veterans Affairs, Washington, DC, counsel for Respondent.

Before Board Judges **PARKER**, **SHERIDAN**, and **WALTERS**.

SHERIDAN, Board Judge.

These appeals arise out of a contract between the Department of Veterans Affairs (VA) and Beyley Construction Group Corporation (BCG) for development of burial areas at the Puerto Rico National Cemetery in Bayamón, Puerto Rico. An issue arose during the contract when BCG attempted soil excavation on the project and encountered rock. Following BCG's assertion of a differing site condition, the VA issued a unilateral change order deleting the excavation at issue and reducing the contract amount. BCG then submitted a claim seeking a contract interpretation on the differing site condition and asserting that the deletion of the excavation work constituted a change to the remaining contract, because there would be insufficient fill on site to complete that work. BCG

averred that "[p]resently this claim does not involve a monetary amount." The contracting officer issued a final decision disagreeing with BCG's conclusion that it had encountered a differing site condition, denying the claim, and directing BCG to continue working to complete the contract requirements. BCG's appeal from the contracting officer's final decision was received and docketed by the Department of Veterans Affairs Board of Contract Appeals (VA Board) as VABCA 7266 on October 20, 2004.

As the contract work progressed and the parties became aware of the actual costs associated with the dispute, BCG sought award of its costs via the litigation. Questions regarding whether the VA Board had jurisdiction to decide the monetary claim were raised by the presiding judge in this matter, both prior to and during the hearing. Attempting to address the jurisdictional issues, BCG, on March 9, 2006, submitted a claim to the contracting officer, raising the same operative facts and issues as it had in VABCA 7266, and alleging that the VA's subsequent directions constituted a "cardinal change" to the contract, causing it to incur $483,001.32 in extra costs.

Following the hearing, the VA Board was, pursuant to statute, consolidated into the Civilian Board of Contract Appeals on January 6, 2007. Pub. L. No. 109-163, § 847, 119 Stat. 3136 (2006). VABCA 7266 was re-docketed as CBCA 5.

In subsequent conferences, the presiding judge indicated that the Civilian Board did not have jurisdiction to issue a monetary award in CBCA 5. On May 18, 2007, BCG appealed the contracting officer's failure to issue a timely decision on the March 9, 2006, claim and the matter was docketed as CBCA 763. The VA entered a general denial of BCG's complaint in CBCA 763 and the parties waived further appeal file submissions, discovery, hearing, and briefs. Upon joint motion by the parties, CBCA 5 and 763 were consolidated for purposes of processing and decision.

The record before the Board consists of the pleadings; the appeal file, exhibits 1 through 15, and the appellant's appeal file supplement, exhibits 501 through 535 (all appeal file submissions are cited as Appeal File, Exhibit #); appellant's hearing exhibits 1 through 4 (Appellant's Exhibit #); respondent's hearing exhibits 1 through 3 (Respondent's Exhibit #); the Board's hearing exhibits 1 and 2 (Board Exhibit #); and the three-volume transcript of the hearing in this matter. We also considered in writing this decision appellant's main brief (Appellant's Brief), respondent's reply brief (Respondent's Reply), and appellant's rebuttal brief (Appellant's Rebuttal).

Findings of Fact

On June 3, 2003, the VA issued solicitation number 871-011-03 seeking bids on a project for "Burial Area Development" at the Puerto Rico National Cemetery in Bayamón, Puerto Rico. Based on the contract documents, specifications, and drawings, construction services were required that included, among other things, general construction, rock removal and earthwork, excavation and grading, drainage, new roads, road repairs, landscaping, and grassing -- essentially preparing the areas in issue to be suitable for burials. Appeal File, Exhibit 4.

Pertinent to this dispute, the burial area at issue contained two large limestone hills, commonly and scientifically referred to in Puerto Rico as "mogotes." The contract documents required that the more easterly mogote be excavated, backfilled with suitable material, and graded for burial sites. Appeal File, Exhibits 4, 14, 15. A mogote is described as "a steep-sided hill of limestone generally surrounded by nearly flat alleviated plains . . . . Originally used in Cuba in referring to residual hills of folded limestone . . . but now used internationally for karst residual hills in the Tropics." Respondent's Exhibit 2 at 3 (*citing* W.H. Monroe, A Glossary of Karst Terminology, U.S. Geological Survey, Walter-Supply Paper 1899 at K26 (1970)). Karst is defined as "a terrain, generally underlain by limestone in which the topography is chiefly formed by the dissolving of rock and which is commonly characterized by Karren [limestone that has eroded into features or patterns], closed depressions, subterranean drainage, and caves." *Id.* Mogotes are the more resistant parts of the limestone that have not dissolved into sinkhole plains. Transcript at 265.

On June 20, 2003, a pre-bid conference was conducted and attended by, among others, Mr. Victor Jurado, BCG's vice president, and Mr. Manuel Fernández, from CMA Architects & Engineers, LLP, the consulting firm the VA retained to design this project. A site visit was conducted at the end of the conference and memorialized by minutes, which were incorporated into the bid documents as addendum 1. Appeal File, Exhibit 14, add. 1. Addendum 1 also includes a geotechnical study and report, performed and prepared by GeoCim Geotechnical Engineering Consultants (GeoCim) in December 1998.

The GeoCim report described the site in which the National Cemetery was located as:

> part of a relatively flat plain that is surrounded by densely vegetated, relatively steep-sided residual limestone hills (mogotes) and ridges. The plain surface has a gentle north to northeasterly slope. The National Cemetery occupies most of the plain. A northeast trending limestone ridge occupies the east margin of the property. Two mogote hills are located

> along the north-central property boundary, and a single mogote occurs at the southwest property corner.

Appeal File, Exhibit 14, add. 1. The GeoCim report was generated several years earlier to assess the subsoil conditions in parts of the cemetery in anticipation of a large surface and subsurface drainage system project, which was being performed at the cemetery during the same period as this contract. Sixteen subsurface exploratory borings had been made for the report, but none of the borings was in the mogote area that became the subject of this dispute. *Id*.

Two additional pre-bid addenda were also made part of the contract documents in response to bidders' questions. Appeal File, Exhibits 2, 3. The following questions were asked by bidders and answered by the VA:

> 14. QUESTION: The geotechnical investigation show [sic] the boring results in the east street but [does] not show geotechnical investigation in earth movement areas. [Does t]his area have rock?
>
> RESPONSE: **Materials classified as rock can be found on earth movement area.**
>
> 15. QUESTION: The material obtained of [sic] the cut in the earth movement is good to use in fill areas?
>
> RESPONSE: **Please refer to Section 02200 Paragraph 3.3 (Filling and Backfilling)**.

Appeal File, Exhibit 3.

Mr. Jurado worked on BCG's bid estimate for the project with Mr. Nelson Coimbre, BCG's estimator. Both went on the June 20, 2003, pre-bid site visit. Mr. Coimbre estimated the volume of the cutting (excavation) and earth movement work, concluding that the project area contained 165,000 cubic yards of material that needed to be cut and used as fill or waste. The 165,000 cubic yards was the amount of earth movement necessary for the whole project, not just the mogote. BCG based its estimate on the total earthwork and did not break out how much earthwork was required to remove the mogote. Transcript at 70-72, 122-24. Mr. Coimbre estimated that 67,300 cubic yards of fill would be needed to complete the entire project and that there would be 98,644 cubic yards of fill left over that BCG would "cut to waste" and stockpile in the cemetery, as directed by the VA. Transcript at 70-71.

Mr. Jurado did the calculations and pricing for the bid estimate and, after award, BCG's cost breakdown for payment purposes. Appeal File, Exhibit 518; Transcript at 57-58, 70-71, 123. He estimated a unit price of $3.92 per cubic yard to excavate material for fill and $3.70 per cubic yard to excavate material for waste. Appeal File, Exhibit 518. During the pre-bid site visit, because of the dense foliage, rocks, and boulders in the earthwork area, he noticed that it was difficult seeing the area, so he asked Mr. Fernández, "[Are] there going to be any rocks here[?]" Transcript at 59. Mr. Jurado testified that Mr. Fernández answered, "No, don't concern yourself with any rocks because obviously the material when you extract it, you are going to come across some rocks." *Id.*

Mr. Jurado planned on using the mogote as BCG's primary source of usable fill, but recollects that while preparing the bid estimate, he concluded that, based on the volume calculation for the whole project, even if the mogote contained rock, there would be more than enough suitable material in the mogote to provide the necessary usable fill to complete the project. Transcript at 59, 72, 83. Mr. Jurado stated that he expected there to be rock in the mogote and that the specifications provided information about what BCG should expect in terms of the measurement and compensation for removing rock. *Id*. at 115, 126. He did not plan on importing any borrow fill onto the project site, and, in fact, was more concerned about where the 98,644 cubic yards of fill that was to be cut to waste was to be stockpiled on the cemetery premises. *Id*. at 121.

Contract V786C-647 was awarded to BCG.[1] The contract contained the Federal Acquisition Regulation (FAR) and VA Acquisition Regulation (VAAR) clauses that were either mandated or suggested for inclusion in construction contracts. A partial listing includes: Disputes (FAR 52.202-1(OCT 1995)), Changes (FAR 52.246-4 (AUG 1987)), Changes - Supplement (for changes costing $500,000 or less) (VAAR 852.236.88(b) (JUN 1987)), Site Investigation and Conditions Affecting the Work (FAR 52.236-3 (APR 1984)), Site Visit (Construction) (FAR 52.236-27 (FEB 1995)), and Differing Site Conditions (FAR 52.236-2 (APR 1984)). Appeal File, Exhibit 14.

Specification Section 02200, EARTHWORK, described the earthwork requirements under the contract, including the excavation, fill, and backfill of materials, and is of particular pertinence to this dispute. Appeal File, Exhibit 14, §§ 02200-1 to -8. The specifications listed the materials that were unsuitable for use as fill as: "**topsoil; construction materials and materials subject to decomposition; clods of clay and**

[1] The record does not contain documentation showing the precise date of contract award.

stones larger than 75 mm (3 inches); organic material, including silts, which are unstable; and inorganic materials, including silts, too wet to be stable." *Id.* § 02200-1.2A.1 (emphasis added).

The contract indicated that both common excavation and rock excavation were anticipated in the project:

> 1.4 CLASSIFICATION OF EXCAVATION
>
> A. Common Excavation: Removal and disposal of pavements and other man-made obstructions visible on surface; utilities, and other items including underground structures indicated to be demolished and removed; **together with any type of earth materials not classified as rock excavation.**
>
> B. Rock Excavation:
>
> . . . .
>
> 2. Open Excavation: Removal and disposal of **solid, homogenous, interlocking crystalline material firmly cemented, laminated, or foliated masses or conglomerate deposits that cannot be dislodged and excavated with a track type loader rated at not less than 150 kW [kilowatt] (200 hp [horsepower]) with a minimum breakout force of 210 kN [kilonewton] (47,300 lb.); or a single tooth tractor/ripper rated at a minimum 120 kN (26,900 lb.) penetration force and 200kN (45,025 lb.) pry-out force.**
>
> 3. Other types of materials classified as rock are boulders, and underground structures not indicated to be demolished and removed; each of . . . (½ cubic yard) or more in volume.
>
> 4. Removal of rocks as specified on drawing L-7 is part of the contract and no separate payment will be made.

Appeal File, Exhibit 14, § 02200-1.4B (emphasis added).

BCG was required to excavate the mogote to conform to the contour lines in the contract drawings that showed the shape and elevation of the project burial area. Appeal

File, Exhibit 14, § 02200. The excavation at the top of the mogote was classified as "open excavation." Transcript at 88.

Contract drawing L-7 showed the burial area at the west side and foot of the mogote containing several piles of rocks ranging in size from one to twenty-three feet in diameter. The contract required those rocks, which totaled 2996 in number on the drawings, to be removed from the cemetery. Appeal File, Exhibit 14, § 02200-1.4B.4 and drawing L-7. The contract specified the measurement and payment for additional rocks excavated from the project by providing "[n]o separate payment shall be made for rock excavation quantities shown [on drawing L-7]. Contract price and time will be adjusted for overruns or underruns in accordance with Articles, Differing Site Conditions, Changes and Changes Supplement of the General Conditions as applicable." *Id.* § 02200-1.5B. BCG sought and was granted an equitable adjustment pursuant to this specification when it encountered more than the 2996 rocks tallied on drawing L-7. *Id.* Exhibits 502, 504, 505.

For site preparation, the contract required that the earthwork operations area be cleared. No visible rocks, roots, or branches over one inch in diameter were to be left on the surface. The topsoil from the earthwork operations area was required to be stripped and stockpiled as directed by the VA senior resident engineer (SRE). Appeal File, Exhibit 14, § 02200-3.1A-F. The contract drawings showed the areas to be excavated, including the mogote. *Id.*, drawings. The contractor was required to remove sub-grade material determined by the SRE to be unsuitable and replace it with acceptable material. When unsuitable material was encountered and removed, the "[c]ontract price and time [was to] be adjusted for overruns and under-runs in accordance with Articles, Differing Site Conditions, Changes, and Changes-Supplement of the General Conditions as applicable." *Id.* § 02200-1.5B. Blasting was not permitted on the site. *Id.* § 02200-3.2C. For fill and backfill, the contract generally instructed, "Use excavated material and borrow [materials brought on-site from an off-site source], as applicable. **Borrow will be supplied at no additional cost to Government**. Do not use unsuitable excavated materials." *Id.* § 02200-3.3A (emphasis added). Section 02200, EARTHWORK, PART 2 - PRODUCTS, also specified as materials "Fills (Burial Areas): Existing stockpiled fill material at the cemetery premises and supplement with like material as necessary as approved by the [SRE]." Appeal File, Exhibit 14, § 02200-2.1.B; Exhibit 2, add. 2, ¶ 4.

Mr. José Hernández was designated the SRE and contracting officer's technical representative (COTR) assigned to the project. Transcript at 329. Mr. Hernández has a degree in mechanical engineering and over twenty years of practical experience in earth movement. At the outset of this contract he had no experience with excavating a mogote or any training in soil mechanics or geology. *Id.* at 335-38. BCG's principals, Mr.

Manuel Beyley and Mr. Jurado, on the other hand, had extensive earth movement experience. Mr. Beyley has a bachelor's degree in civil engineering and was a project manager for fifteen years and then a construction officer at Rexco Construction Company. He was mainly involved in highway projects, which included bridges, but also worked on residential development projects. He supervised large scale highway system projects that involved earth movement. *Id.* at 8-10. Mr. Beyley, together with Mr. Jurado, formed BCG, with Mr. Beyley as the company's president and Mr. Jurado its vice-president. *Id*. at 8. Mr. Jurado has an associate's degree in civil engineering with a major in land surveying and highway construction. He also has extensive experience as a heavy equipment operator, operating cranes with front shovel systems, bulldozers, and scrapers. *Id.* at 49. He had been a superintendent of field operations at Rexco Construction Company until leaving to form BCG with Mr. Beyley. *Id*. at 54. Both Messrs. Beyley and Jurado are familiar with mogotes.

As testified to by Mr. Jurado, BCG began the earthwork associated with removing the mogote by removing the boulders that were located on the west side and foot of the mogote so that a road could be opened up to bring the heavy machinery to the top of the mogote. Transcript at 63-70. Mr. Jurado believes that the rocks and boulders around the mogote were extracted from prior excavations of the mogote and put aside, but left on the site. *Id*. at 120. The rocks were so dense that BCG had difficulty gaining access to the mogote. *Id*. at 63. Mr. Jurado stated he had expected to be able to "come up with the ripper and rip the top part [of the mogote] according to the contract specifications." *Id*. at 62. The specifications depicted the mechanical parameters of the equipment BCG was required to use, and stated that the contractor should expect to extract the material with a single tooth tractor ripper rated at a minimum of 120 kN. If the contractor was unable to perform the excavation with equipment meeting those parameters, then the excavation would be characterized as rock excavation, and the contractor would be entitled to receive extra compensation for its removal. *Id*. at 126. The equipment with which BCG attempted to "rip" the top of the mogote was a "D9R machine" [a Caterpillar D9R heavy bulldozer with rear ripper] that had a 375 horsepower motor and more torque than the category of machine set forth in the specifications, and a "penetration power [that was] double" what was called for by the specifications. *Id*. at 88-89.

After BCG gained access to the top part of the mogote, in early April 2004, it cleared the ground cover and started the work with the ripper to begin the excavation. The ripper was unable to penetrate the top of the mogote. At that point BCG asked the VA personnel to come to the site and witness the conditions it had encountered. Transcript at 75. Also around that time, upon urging by the VA, BCG took a sample of material from the lower slope of the mogote and sent it to Corporación Geotec (Geotec), a subsoil exploration and materials laboratory BCG retained for testing excavated material

for its suitability as fill. *Id*. at 62, 105. Other than the borings that served as the bases for the GeoCim report, and these samples tested by Geotec, there is no indication in the record that additional borings or soil studies were performed to assess the condition of the material at the top the mogote or throughout the interior of the mogote. *Id.* at 91.

On April 6, 2004, BCG wrote to Mr. Hernández, notifying the VA that BCG had encountered a differing site condition and that "during the commencement of the cut to fill in the mogote area we have found that the excavation can't be done as it is in our contract, because the material to be excavated is rock material." Mr. Hernández was initially charged with making the decision on whether the materials in the mogote were a differing site condition. Transcript at 336. He responded on April 15, 2004, that he was denying the alleged differing site condition because addendum 1 containing the GeoCim report had indicated that the area in issue had residual limestone hills (mogotes) and limestone ridges, and addendum 3 stated that "materials classified as rock can be found on earth movement area." Appeal File, Exhibit 6. Mr. Jurado does not remember BCG receiving a copy of this letter. Transcript at 77. At a weekly progress meeting conducted on April 21, 2004, BCG indicated that it needed a decision on the mogote issue because excavating the mogote was on the critical path. Appeal File, Exhibit 7.

On April 29, 2004, the contracting officer, Gregory Hanks, issued a unilateral change order (COCO), COCO-1, to modify the contract work. Appeal File, Exhibit 7. Among other things, COCO-1 instructed BCG to:

> A. Delete all work associated with the excavation and removal of the escarpment (mogote) indicated on contract drawing L-21 at burial sections P and Q, as indicated on attached sketch COCO-1 dated April 28, 2004. Establish a 2% grade to the face of the escarpment as shown on the fore referenced sketch.

Id. COCO-1 also provided that "[t]he total value of this contract is decreased from an amount of $2,760,000 to a new total value of $2,470,000 with zero additional days added to the contract completion date. **This represents a $290,000 decrease in contract amount with no change in the completion date.**" *Id.*

VA Project Manager Richard Kollar noted in a memorandum to the record the considerations that formed the bases of the VA's decision to delete the work associated with removing the mogote:

> A. The contractor advised the resident engineer of a perceived differing site condition associated with the limestone escarpment, locally know as a

mogote. The contractor indicated that the material, although well defined by the Geotechnical report as a mogote and indicated on the drawings, was not clearly defined as rock.

B. Although it is apparent to the Government that the material is clearly addressed as rock in the documents its removal to a new grade would not provide suitable burial sites in Section P and Q in that the graves themselves would require rock excavation on a site by site basis. This situation has the potential for being too inefficient and costly.

C. The area along the escarpment has, however, the potential to become the site of [a] future columbarium wall.

D. As a claims avoidance measure, but, moreover, as an increase in cemetery efficiency and use, it is deemed prudent to delete the work of removing the escarpment and appurtenant items.

E. To avoid delays and inefficiencies to the contractor, it is considered prudent to unilaterally direct the deletion while the contractor prepares the proposal for same.

F. A budget estimate for the work has been deemed to result in a credit of $290,000.

Appeal File, Exhibit 7.

By letter dated May 26, 2004, BCG indicated that the excavation or "cut to fill" phase of the work was at a standstill because it had no suitable material to use as fill on the project. Appeal File, Exhibit 513. Mr. Hernández responded that the VA was not stopping the work and that the issue of bringing fill onto the project from off-site, in other words "importing borrow," had already been discussed at several weekly meetings. He directed BCG to section 02200-3.3 of the earthwork specification that required "[f]or fill and backfill use excavated materials and borrow, as applicable. Borrow will be supplied at no additional cost to Government. Do not use unsuitable excavated materials." Mr. Hernández indicated that if BCG disagreed with the VA's position that BCG was responsible for providing suitable fill from borrow at no cost to the Government, BCG should request a contracting officer's final decision. He stressed, however, that if no suitable excavated materials could be used as fill, BCG needed to provide borrow material as per the specifications. Appeal File, Exhibit 513.

BCG submitted a claim on June 14, 2004, seeking an interpretation of the contract, stating that "[p]resently this claim does not involve a monetary amount." BCG asserted:

> At the pre-bid meeting, BCG's representative inquired as to the composition of this [mogote], inasmuch as the soil study made no mention of the [mogote] or its geological composition. BCG and the other bidders were instructed to assume that there was no rock in the [mogote]. Thus, the material composing this [mogote] was to have been used by BCG in performing its fill operations elsewhere in the project.
>
> Upon commencing its excavation of the [mogote], BCG discovered that the [mogote] not only contained rock, but that the [mogote] was mostly composed of rock. Thereby rendering it wholly unsuitable for its intended use - fill material. It is BCG's understanding that this is a differing site condition. BCG so advised the VA, and the VA's response was to delete the excavation and removal of the [mogote], indicated on drawing L-21 at the burial sections P and Q. To that end, the VA issued deductive COCO-1 [change order] on April 29, 2004. While this deductive [change order] certainly takes care of the excavation issue at the [mogote], it does not resolve another fundamental issue: the fill material.
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> . . . .
>
> [W]ith the differing site condition that has been established by BCG and partially resolved by COCO-1, BCG is faced with the reality that there is no usable fill material at the project. This scenario constitutes a cardinal change to the project, inasmuch as BCG had a reasonable expectation of not having to bring any borrow material whatsoever to the Project, but with the uselessness of the [mogote] (and the corresponding deletion from the scope of work of the contract), BCG will have to bring substantial borrow to the project.

Appeal File, Exhibit 8. BCG went on to argue that the VA's position, that section 02200.3.3.A required BCG to supply borrow at no additional cost to the VA, was interpreting the specification in a "vacuum without taking the reality of the project into account" and that, but for the differing site condition and the corresponding deletion of the mogote work, there would be no need for borrow to be brought on site. *Id*. BCG asked the contracting officer to render a decision within sixty days because the lack of fill was impacting activities on the critical path and BCG might have to stop work at the project until the situation was resolved. *Id*.

After the mogote work was deleted from the contract, BCG hired Geotec to provide a professional, more precise survey of the mogote's volume. Licensed surveyor Angel Noel Colón-Guzmán conducted the survey and, on June 22, 2004, reported that BCG would have needed to move approximately 76,387 cubic yards of material to eliminate the mogote, with a total of 108,000 cubic yards of earth movement and excavation needed for the entire project. He also estimated that BCG would need a total of 71,197 cubic yards of fill for the project. Transcript at 202-04; Board Exhibits 1, 2.

The contracting officer disagreed with BCG's interpretation and denied its claim on August 3, 2004, directing BCG to continue the work. As reason for his final decision, the contracting officer pointed to the minutes of the pre-bid meeting and stated that the minutes advised the offerors to expect rock in the mogote. Appeal File, Exhibit 9.

On October 13, 2004, BCG provided the VA what it considered more appropriate figures for the work associated with the deducted mogote. The attachment to this letter, which was dated October 11, 2004, showed a value of $342,429.58 for the deleted work and a value of $1,339,155.20 for the fill that would need to be brought on site as a result of the mogote earthwork being eliminated. BCG asserted that the balance due it as a result of the deductive change order was $1,049,125.62. Appeal File, Exhibit 524. BCG's timely appeal from the contracting officer's final decision was docketed on October 20, 2004, as VABCA 7266.

At the hearing, both Messrs. Beyley and Jurado, who have worked extensively on mogotes, acknowledged that one cannot really tell from looking at a mogote whether or not it will be composed of soft materials and easy to remove, hard materials and difficult to remove, or a combination of both. Mr. Beyley, who had only "general knowledge" of the project but had extracted material from mogotes and was particularly experienced in highway construction, testified that in some instances where scarce and low vegetation is observed, one could anticipate a "rocky mogote," and where lush vegetation and tall trees are seen, one would expect that the mogote was made up of looser material. Transcript at 16-17. He noted, however, that "many times [we] were surprised, because where we thought that [the mogote] was going to be soft, it happened to be very hard and where we thought that it would be very hard it turned out to be soft." *Id*. at 12-13. He opined that one could not tell the degree of hardness of a mogote with any certainty strictly from a visual inspection and that borings and a sub-surface study were needed to determine what was underneath the surface of a mogote. *Id*. at 12-14.

Based on his experience in working with mogotes, Mr. Jurado indicated that there are two ways to tell how hard a mogote will be to excavate: (1) by observing the denseness of the vegetation present and (2) by taking boring samples. Transcript at

68-69. Upon further questioning, Mr. Jurado acknowledged, "[S]ome [mogotes] happen to be solid hard from top to bottom, but that is not what we generally find in the mogotes here in Puerto Rico. In fact . . . I am led to believe that the boulders that were already there at the site were extracted from the excavations that were made from the site, from the top of the mogote and then were later put [to] the side because here in Puerto Rico no project is allowed to contain fill of granulation greater than six or eight inches." *Id.* at 119-20. Mr. Jurado speculated that perhaps if a hydraulic hammer had been used to get through the top of the mogote, usable fill might have been found under the top crust. *Id.* at 104. He also speculated that perhaps if BCG had dug deeper into the core of the mogote, suitable material might have been found. *Id.* at 105-08.

Mr. Jurado testified that "in every project you are going to come across some rocks but that is manageable and we assume that we would be able to use all of the material in the project." Transcript at 70. Later in his testimony Mr. Jurado stated that for fill, a contractor needs a variety of materials of different sizes or granulations:

> [I]t doesn't mean that you are going to fill using only rock. I mean, you need fine material also but remember that the mogote is made up of different grades of material. It goes all the way from dirt to rock, boulders of different granul[ations] or . . . a formation of rock that is too hard [and] will not break down to the granulation desired. However, as a contractor, you expect that . . . when you make an excavation of a mogote, you [will] obtain a material that is 60 to 70 percent suitable for fill. Almost all of the mogotes yield that.
>
> . . . .
>
> In other words as a contractor in my experience, I could not pretend a hundred percent of the material excavated for the mogote was going to be suitable for fill but in my experience I could reasonably expect that seventy percent of the material extracted would be suitable for fill.

Id. at 119-21.

Upon being asked what classification of fill would need to be brought into the burial areas "in the absence of a classification being specified," Mr. Jurado responded:

> Well, if the classification is not specified, then you can infer that you can use any material from sludge up to soft material for fill, but the stockpiles that were located in the project site . . . were not suitable for fill where

> burials were to be made because it was full of garbage, full of trash and rock, stones, debris and that is the reason why it had to be moved outside of the project area, within the cemetery premises but outside of the project area and [the VA] paid for it.

Transcript at 97.

BCG called as its consulting witness Mr. Carlos Ortiz, who, since 1978, has been the president of Corporación Geotec, the subsoil exploration and materials laboratory that BCG originally hired to do the soils testing from the mogote's lower slope. Appellant's Exhibit 2; Transcript at 163. Mr. Ortiz has a master's degree in civil engineering and several years of experience as a soils engineer. He has served as a consultant in several cases in Puerto Rico. Appellant's Exhibit 3. In his January 16, 2006, report, based upon a review of pertinent contract documents, Mr. Ortiz writes:

> These documents instruct the contractor to move earth at the project site, cutting from some areas and filling in other areas. The specifications state the rock could be found and that it would be a differing site condition.
>
> This is the case at [the] site, where a mogote or haystack hill was attempted to be cut by the contractor. This resulted in rock being found near the surface.
>
> Mogotes, or haystack hills, are outcropping of limerock sticking out of the nearby sinkhole plains. Limerock may be soft, earth or leached, or it may be hard, [recrystallized] limestone depending on its past history. In the San Juan-Bayamón area the limerock is mostly of the soft, earthy variety, with a surface layer of recrystallized limestone. The contractor should have assumed this.
>
> . . . .
>
> If rock crushers are used, all of the haystack hill can be used as fill, no matter how much rock it contains.
>
> In my expert opinion the contractor should have expected some rock to be present. In any event, he could reasonably count on the total cut volume of the haystack hill as usable fill.

Appellant's Exhibit 1.

Mr. Ortiz also determined that special methods, either hydraulic hammering or blasting, would be necessary for excavation of this mogote. Transcript 173-74, 192-93. He opined that as a soils engineer, when he sees a mogote that is densely vegetated, the mogote is probably soft limestone "because the roots of the trees can take ahold of it and that requires soil-like material." *Id.* at 178. However, he also testified that in the absence of a soil study, boring, or subsoil exploration, one cannot tell whether a mogote will be hard or soft by merely looking at it:

> [M]ogotes have the appearance of solid limestone, all of them. They are steep sided or vertical sided, they are rocky. They look rocky but once you take a bulldozer to them you find out that they are not so rocky after all. Once you get through the hardened crust, the inside [is] soft material.

Id. at 185-86.

Noting that hard limestone could be found with the soft limestone, with boulders and "more continuous recrystallized limestone," Mr. Ortiz opined that there were a few recrystallized mogotes in the Bayamón area, but most of the mogotes there are of soft material. When asked to give his opinion on whether BCG acted reasonably in expecting to use the mogote as fill material, Mr. Ortiz testified:

> [B]ased on experience in the Bayamón area, you would probably find mogotes that were amenable to ripping using a large bulldozer. That was our experience with PR [Puerto Rico Route] 22 less than a kilometer away. I think that the contractor should have considered that some boulders appeared and that these boulders would have to be hammered down to size to be used as fill. Otherwise, the mogote itself, it should be ripped with a large bulldozer.

Transcript at 180-81.

Mr. Ortiz testified that most mogotes have a crust of from zero to twenty feet, and that contractors normally bulldoze the mogote, discard the oversize boulders, and use the softer material after they break the material down. Transcript at 195. Mr. Ortiz opined that limestone, properly broken down, makes an excellent fill material. *Id.*

BCG also called as a witness Mr. Manuel Fernández from CMA Architects & Engineers, the firm the VA retained to provide design drawings and technical specifications for the project. Transcript at 211-12. To design the project, Mr. Fernández used the VA master specifications and tailored them to this project. *Id.* Mr. Fernández'

recollection of many of the issues relating to this project was very sketchy. While he remembered receiving some questions from bidders through the VA, and answering those questions, he did not remember being asked a question by Mr. Jurado about the makeup of the mogote during the pre-bid site survey. *Id.* at 238. He believed that the mogote at issue could be used as a source for fill material for the burial area. *Id.* at 221-22. He also expected that rock excavation would need to be performed in removing the mogote. *Id.* at 228-30. Mr. Fernández acknowledged that the contract was silent as to a fill classification for the burial areas and merely provided that the fill materials for the burial areas were to be drawn from existing stockpiled fill material at the cemetery. *Id.* at 221-23.

The VA called as its consultant witness Dr. James Joyce, a Professor of Geology at the University of Puerto Rico, Mayagüez, who has a doctorate degree in geology and a master's degree in structural geology. Since 1991, Dr. Joyce has worked as a private consultant conducting subsurface and surface geological analyses of construction sites in Puerto Rico and the Virgin Islands. He has provided preconstruction geologic surveys, inspections, evaluations, consultations, analyses, reports, and papers for consulting engineers, legal firms, municipalities, and homeowners on various projects. Respondent's Exhibits 2, 3. Dr. Joyce readily admitted that he had not worked construction and had never supervised the excavation of a mogote. Transcript at 274-75. He acknowledged that as a doctor of geology he did not view mogotes in the same way as a civil engineer might view them. *Id.* at 296-98. For the VA in this appeal, he prepared an undated report titled "'Mogote' Hills and 'Escarpments' at the Puerto Rico National Cemetery - A Geologic Perspective" (the "Joyce Report"). Respondent's Exhibit 2. To prepare the report, Dr. Joyce reviewed the specifications, the addenda to the contract, the drawings, the GeoCim soils report, a later GeoCim report on the limestone ridge landslide, COCO-1, and the original BCG claim. Transcript at 302. He also visited the site. *Id.* at 261.

According to the Joyce Report, the mogotes in the area of the cemetery are composed of three "Tertiary[-age] limestone formations," the Cibao, the Aguada, and the Aymamón:

> The Cibao Formation upper member is described as "chalk, soft limestone, and very pale-orange sandy clay." The Aguada Limestone Formation is described as "alternating thick beds of indurated [hardened] very pale orange to pink fine calcarenite and grayish orange to very pale orange clayey and chalky limestone." The Aymamón Limestone [Formation] is described as "white to very pale orange . . . massive to very thick bedded

> very pure fossiliferous limestone; generally indurated by secondary cementation into finely crystalline rather dense limestone."

Respondent's Exhibit 2 at 1-2 (citations omitted).

Dr. Joyce observed that, according to the geological map:

> The contour patterns of the [mogote at issue] are clearly not natural and indicate the hill had been previously cut. It would be logical to assume that the rocks and boulders around the [mogote] were the material excavated from the [mogote] cuts and hence the [mogote] must be composed of rock.
>
> . . . .
>
> The rock composition of the [mogote] would have been reasonably ascertainable even with a simple site inspection or tour. . . . The rock composition of the [mogotes] surrounding the National Cemetery is obvious even to a casual observer.
>
> Weathered rock exposures are observed in the center and right side of the mogote hill and would have been visible during the pre-bid conference tour.
>
> . . . .
>
> In fact, even a casual drive around the cemetery or the adjacent commercial areas would obviate [sic] that all the hills in the area are composed of rocks. Certainly experienced contractors would recognize that all local projects on these [mogotes] required rock excavation. Therefore, the BCG contention that the discovery of the rock composition of the escarpment or mogote hill upon initial excavation was a surprise and represents differing site conditions is neither tenable nor reasonable.

Respondent's Exhibit 2 at 8-12.

Based on his review of the contract documents and the site, Dr. Joyce reached the following conclusions:

> 1. The National Cemetery is characterized by a relatively low flat plain underlain by clayey soils and surrounded by mogote hills and ridges composed of limestone rock. The geologic conditions are typical of

the Mogote Karst terrains that characterize north-central Puerto Rico from Arecibo through Bayamón.

2. The clayey composition of the interior low plains and limestone rock composition of the surrounding ridges and mogote hills are clearly documented in the geotechnical soil investigation and drawing plans included in the contract documents.

3. Sufficient information is included in the drawing plans to infer a rock composition of the mogote hill in Section P-Q independent of the soil investigation.

4. No evidence has been found in the reviewed contract documentation to support the contention that BCG was informed there was no rock in the "escarpment" - mogote in Section P-Q.

5. Limestone rock is exposed in all of the mogotes, hills and ridges surrounding [the] cemetery and in extensive rock cuts behind neighboring commercial areas.

6. Based on existing contract documentation, site inspection and previous construction projects in the Bayamón area an experienced construction contractor should have expected to find limestone rock in the mogote - "escarpment."

7. Further, the experienced contractor should have expected that grading of the mogote hill as stipulated in the contract would require rock excavation and that most of the excavated material would not be suitable to use as fill.

Respondent's Exhibit 2 at 11-12.

Dr. Joyce elaborated during his testimony:

[M]ogotes are a form of rock. Whether or not [a mogote] is rock that requires blasting is not something that is . . . completely predictable just by calling it a mogote. What . . . we know is that it is made out of limestone. It includes some hard rock. It may include completely hard rock. It really depends a lot on the mogote but in general, mogotes form on the harder, more resistant limestone formations.

Transcript at 266-67. He also stated:

> There are two parts of mogotes. M[uch] of the outside of limestone can become what is called case hardened and you can have crusts on them but [also] they can be composed internally of harder limestone layers.

Id. at 272. When asked to address the particular mogote in issue, Dr. Joyce opined:

> The overall appearance . . . of the rock cuts would make it appear that the rock was hard, very hard. The cuts are quite vertical and . . . the boulders apparently were hard enough that the[y] . . . require[d] breaking for their removal.
>
> So, essentially . . . if someone had asked me to look at this [mogote] and say . . . do you think this is going to be hard rock . . . I would say yes. I couldn't actually tell them if I thought they needed to blast it, but certainly expect that, yes, there is going to be good hard crystalline limestone.
>
> . . . .
>
> Basically every site I looked at had very steep cliffs. Some places actually exposed rock. There was rock exposure sticking out of the mogote, not the new part that has been excavated, but actually off to the sides, and so it seems logical to me that you, you should expect there to be hard rock and the mogote, as I would expect as well as mogotes in general, it is possibly very hard rock.
>
> The other question to be answered was whether the material could be used for fill or not and as there [were] no specifications for the fill, that is a very difficult one to answer. Limestone is used a lot for fills. It is all different kinds of fills and it depends on the specifications. Obviously if you have a hard rock layer, you can crush it and break it down to the size specification you actually need so that is quite possible.
>
> My decision that the material should have been known to be unsuitable was largely based on the Beyley claim that the rock that they found when they cut into the mogote was unsuitable.
>
> . . . .

> [T]hey should have expected rock to be there and specifically as you are looking at the design, look[ing] at the design plans, the way that the mogote has been cut, the boulders that are around it, certainly would tell you that hard rock was there and if hard rock was not suitable for them as fill, then they should have realized that also and not have assumed that they could have cut the mogote and gotten all of the fill that they needed.

Id. at 268-71.

Dr Joyce acknowledged that "not all of [the mogote] is equally hard . . . that is for sure, and clearly, we see borrow formation and in some parts . . . [that is] not very hard." Transcript at 304. He opined, however, that:

> Soil-like and rock-like are very difficult terms . . . . There is not a single mogote [that] is made out of soil. It may be made out of weathered rock that is softened, but by looking at a mogote, I can usually tell whether or not there is a hard layer in there, yes. It is usually easy to pick out the variations and the strength of the limestone layers if it is made out of layers or if it is massive.
>
> . . . .
>
> You can barely excavate. Most of the material requires machinery to excavate. I mean, even a hard soil is hard to get out with hand tools so the mogotes all require machinery to excavate. You are not going to send a team out with a pick and shovel. . . . They are all [rock] cuts, let's put it that way. They are not soil cuts. They are rock cuts.

Id. at 277-78, 304.

Regarding the northeast trending ridge, Dr. Joyce noted that while it did not fit the full definition of a mogote, because it was an elongated ridge instead of a cone-shaped hill, the ridge base contained "pretty much the same" geologic formation as the mogote. "At the base is the upper Cibao formation followed by the Aguada which makes up a large part of the ridge where it is steepest, and then on the top there is a section of Aymamón." Transcript at 298.

BCG had occasion to excavate other areas in the project including a pond, a canal, and the slopes of the northeast trending line when the SRE directed BCG to use those areas as a source of fill. Transcript at 97-98, 129. According to Mr. Jurado, on the slopes

of the northeast trending line BCG "cut material from there but it wasn't suitable for fill because it was full of rocks, full of muck." *Id.* at 97-98. In those areas that were excavated apart from the mogote, BCG extracted 7000 cubic yards of suitable material that it used and 27,000 cubic yards of unsuitable material that it deposited in an area within the cemetery as designated by the VA. *Id.* at 129. Based on the total 34,000 cubic yards of material excavated from the area, only 20% was suitable fill material.

On March 9, 2006, in likely response to the questions raised about jurisdiction, BCG submitted a certified claim to the contracting officer asserting that the deletion of the mogote work constituted a cardinal change to the contract. BCG averred that the loss of the mogote work caused a shortfall in suitable on-site fill materials, and that the VA's position required it to import 31,693 cubic yards of borrow material onto the project site at $15.24 per cubic yard. BCG claimed it was therefore entitled to an equitable adjustment to the contract in the amount of $483,001.32. Appeal File, Exhibit 535. At the hearing BCG indicated it no longer disputed the amount the VA deducted from the contract for the deletion of the mogote excavation, and that it considered the amount deducted to correspond with the unit prices in its cost breakdown for the work that was deleted. Transcript at 203. On March 15, 2006, during the hearing held in VABCA 7266, the parties stipulated that BCG imported 31,693 cubic yards of fill into the project at a unit price of $15.24 per cubic yard, for a total cost of $483,001.32. *Id.* at 160-61. Still in dispute, however, was whether BCG was entitled to be compensated for the fill it was required to bring outside the cemetery to complete the project.

As previously mentioned, the VA Board was consolidated into the Civilian Board of Contract Appeals on January 6, 2007, and VABCA 7266 was re-docketed as CBCA 5. On May 18, 2007, BCG's appeal from the contracting officer's failure to issue a timely decision on the March 9, 2006, monetary claim was received by the Civilian Board and docketed as CBCA 763. CBCA 5 and 763 were consolidated for purposes of processing and decision. The Government entered a general denial in CBCA 763 and the parties waived futher submissions in the appeals.

Positions of the Parties

BCG argues the VA's decision to delete the mogote excavation deprived BCG of a valuable source of fill material it needed for the burial areas. As a result of the VA's action in taking the deductive change, BCG proffers it was required to import 31,693 cubic yards of borrow fill onto the project that it would not otherwise have had to import, at a unit price of $15.24 per cubic yard. BCG avers it incurred $483,001.32 in costs to import the borrow fill and is entitled to be compensated for the $483,001.32, plus interest as provided under the Contract Disputes Act.

The VA avers that BCG was not required to perform any additional work because of the alleged condition, so it should not receive any compensation for its claim. The VA posits that BCG failed to prove that it had a contractual right to expect that it would be able to use the excavated materials from the mogote as usable fill, and that the contract specifically states that for fill and backfill, the contractor was to "use excavated material and borrow, as applicable," so "borrow [was to] be supplied at no additional cost to Government."

Discussion

BCG frames its argument for recovery as a differing site condition, and the VA has defended the appeal on that basis. However, it its clear from the facts of this case that when the VA issued its April 29, 2004, deductive change order, deleting the mogote excavation from the contract, the VA at the same time constructively changed BCG's planned method and manner of performing the earthwork required by the contract. As a constructive change, BCG's entitlement falls more appropriately under the contract's Changes clause. While we will discuss why certain conditions BCG encountered were differing site conditions under the terms of this contract, we decide this appeal on the basis that the VA constructively changed this contract, entitling BCG to additional compensation.

The contract required BCG to perform earthwork to prepare the specified project area for burial sites. Part of the earthwork area, the subject of this dispute, contained a limestone hill, commonly and scientifically called a mogote. BCG was required to excavate the mogote to conform to the contour lines in the contract drawings that showed the shape and elevation of the project burial area. Pursuant to contract, BCG was then instructed to fill, compact, and grade the area with "suitable" or "usable" fill to create burial sites as per the drawings and specifications.

For fill and backfill, the contract generally instructed the contractor to "use excavated material and borrow [material brought in from off-site]. . . . Borrow will be supplied at no additional cost to Government." What constituted "usable" or "suitable" fill material for the burial areas was not precisely described in the contract. The drafters elected instead to instruct bidders to use "[e]xisting stockpiled fill material at the cemetery premises and supplement with like material as necessary as approved by the SRE." Unsuitable fill materials included "topsoil; construction materials and materials subject to decomposition; clods of clay and stones larger than 75mm (3 inches); organic material, including silts, which are unstable; and inorganic materials, including silts, too wet to be stable." While Mr. Jurado posited that in the absence of a classification being specified for usable fill, "you can infer that you can use any material from sludge up to soft material

for fill," it does not appear from the facts before us that during contract performance there were any questions or disputes between the parties as to what material constituted usable fill.

Mogotes are composed of limestone of varying degrees of hardness. Some can only be removed by blasting and/or a jackhammer, while others can be removed, at least in small amounts, by a pick and shovel. The mogote in issue was viewed as a source of fill for the project. As is clearly allowed, and actually contemplated by the contract's terms, BCG planned on using material excavated from the mogote for the fill needed on the project.

The plan was to excavate the limestone material in the mogote and turn it into suitable fill by the bulldozing and crushing methods articulated by Messrs. Jurado and Ortiz. This was the practice with a number of mogotes in this area of Puerto Rico. The plan was reasonable, provided the material was suitable or could be made suitable as fill. According to BCG's bid estimate, there was more than enough material available on site to provide the usable fill required for the burial areas. In fact, the contractor anticipated it would have excess materials from excavation that would need to be stockpiled somewhere else on the cemetery premises, which it referred to as "cut [excavate] to waste." To obtain the fill needed for the burial areas, BCG planned on excavating material from the mogote with the ripper, eliminate the unsuitable materials, and roll over the remaining material with a bulldozer until it was broken down to a size that was suitable for fill. Material too large to be crushed would be rolled by the bulldozer to the side and removed. Even the VA's consulting engineer indicated that he expected the contractor to use the mogote as fill.

Problems were encountered early in the contract when BCG went to the top of the mogote and attempted to begin excavation. It came upon material that it was unable to excavate using its bulldozer ripper. The fact that this mogote contained hard rock material did not come as a particular surprise to anyone on this project, although BCG's owners initially took the position they did not expect to find rock in the mogote. All the witnesses ultimately agreed that mogotes can be of varying degrees of hardness, with the limestone ranging from soft, chalky material to material that is so hard it can only be penetrated with a jackhammer or by blasting. All involved in this contract conceded that the only truly reliable way of telling the limestone composition inside a mogote and its degree of hardness was through soil borings or sub-surface studies. The consensus of the witnesses was that mogotes generally were a good source of fill, but one could not reliably know how hard the limestone inside a mogote would be until it was opened up and excavated.

When BCG came upon the hard material at the top of the mogote, which it was unable to excavate using equipment that exceeded the break- and pry-out force requirements specified in the contract, it immediately notified the VA it had encountered unsuitable rock material and a differing site condition. Under the terms of the contract, when the contractor encountered and removed unsuitable material and rock, that was unable to be excavated using machinery meeting the break- and pry-out force parameters set forth in the specifications, the contractor was entitled to have the contract price and time adjusted pursuant the contract's Differing Site Conditions and Changes clauses. BCG encountered this material, ergo, BCG would have been entitled to have the contract price and time adjusted for the removal of unsuitable rock material meeting the aforementioned characteristics.

While the facts of this case do not fit squarely within the traditional analyses used with the Differing Site Conditions clause, we have concluded that, indeed, BCG encountered a differing site condition when it was unable to excavate the materials at the top of the mogote using the equipment specified in the contract. It came upon a differing site condition because the very terms of the contract instructed it to treat those conditions it encountered as a differing site condition. This is not to say the entire mogote should have or would have been characterized as a differing site condition. Because work was stopped at the top of the mogote we do not know what hardness of material was inside the mogote, or whether it could have been excavated using the specified equipment. Further, the answer to that issue is not relevant to the decision we must make because the mogote excavation work was stopped and removed from the contract.

After BCG notified the VA, claiming it had encountered a differing site condition, the VA, without much discussion with BCG, issued a unilateral change order deleting the mogote earthwork from the contract and reducing the contract amount by $290,000. As the work continued, and finding itself needing a source of suitable fill for the project, BCG approached the VA. The VA told BCG to obtain fill from areas inside the cemetery, including a pond, a canal, and on the slopes of the northeast trending line. A total of 34,000 cubic yards of material was excavated from those areas. Of that, 7000 cubic yards were suitable fill material and 27,000 cubic yards were unsuitable material. The on-site sources provided by the VA yielded only 20% usable fill per cubic yard excavated.

As work progressed and on-site sources of suitable fill were depleted, the VA took the position the contract called for BCG to use excavated materials and borrow for fill, and that the borrow was to be supplied at no additional cost to the Government. Upon hearing that the VA expected BCG to pay for the borrow it needed to complete the project, BCG countered, asserting that when the VA deleted the mogote excavation, it deprived BCG of

its planned source of usable fill, and BCG should be compensated for bringing borrow fill onto the project pursuant to the contract's Differing Site Conditions clause.

We agree that the VA's action, deleting the mogote earthwork, deprived BCG of the source of fill it planned to use on the project. However, because BCG never excavated the mogote, the contract's Differing Site Conditions clause has little to do with BCG's recovery. What actually happened here is that, by deleting the mogote earthwork, the VA constructively changed the manner which BCG planned to obtain usable fill for the entire project. Where a contract permits a manner or method of performance, changing or forbidding such manner or method is a constructive change under the Changes clause. *Gil-Brown Constructors, Inc.*, DOT CAB 67-21, 69-2 BCA ¶ 7804 (Government's refusal to grant an extension of the minimum borrow pit area, where the specifications provided for the staking of additional areas necessary to supply the required material as the work progressed, restricted the contractor's performance and caused a constructive change in the method of performing the work under the contract); *Lincoln Construction Co.*, IBCA 438-5-64, 65-2 BCA ¶ 5234 (contractor entitled to an equitable adjustment for a constructive change where the Government withdrew a substantial portion of a borrow area that it had staked off for use by the contractor prior to award); *see also Jerry Dodds*, ASBCA 51682, 02-1 BCA ¶ 31,844; *Clauss Construction*, ASBCA 51707, 02-1 BCA ¶ 31,678; *Walashek Industrial & Marine, Inc.*, ASBCA 52166, 01-1 BCA ¶ 31,385.

Constructively changing BCG's planned manner of performance by deleting the material in the mogote that could be used for fill increased the costs associated with the earthwork, because importing off-site borrow was more costly than obtaining material from the mogote and processing it into usable fill.

The evidence presented leads the Board to conclude that, but for the elimination of the mogote excavation, BCG likely would have obtained at least some suitable fill from the mogote. No compelling evidence was provided by the VA to convince us that because the contract required that "borrow was to be provided at no cost to the VA" BCG was unreasonable in anticipating it would obtain some amount of usable fill from this mogote. By the same token, a reasonably prudent contractor should have expected to encounter rocks based on a viewing of the site, particularly seeing the piles of unsuitable rock material that had been collected at the base of the mogote from prior excavations. A contractor experienced in "taking down" mogotes, as BCG purported to be, should also have expected to encounter some of the rock it encountered at the top of the mogote. The contract informed bidders that they would be excavating a mogote, and, as such, a prudent contractor experienced in excavating mogotes in the Bayamón area should have expected that it would encounter varying quantities of either or both hard and softer limestone materials. That being said, we have grappled mightily with the question of how much

usable fill BCG should have reasonably expected, or actually might have gotten from this mogote had it been excavated.

We are not convinced that 100% of this mogote could have been converted into usable fill, as opined by BCG's consultant, Mr. Ortiz. Mr. Jurado testified that, in every mogote project, a contractor expects to "come across some rocks but that is manageable and [he] assumed that BCG would be able to use all of the material in the project." Later in his testimony, however, he testified that a contractor excavating a mogote would expect to obtain a material that is 60 to 70% suitable for fill. To us, even those numbers seem idealized. To process the limestone into suitable fill, a contractor would roll over the material several times with a bulldozer or use jaw crushers to crush the limestone down to a useable size. It is clear to us that using this mogote for suitable fill would likely require extensive amounts of bulldozing, crushing, and processing. Other than its bid sheets showing an estimated unit price of $3.92 per cubic yard to excavate material for usable fill and $3.70 per cubic yard to excavate material for waste, BCG failed to address in the record what it would have cost to do the bulldozing, crushing, and processing needed to turn the harder limestone deposits in this mogote into usable fill.

BCG's expectations were not those of a prudent contractor. Its belief that 100, 70, or 60% of the material in the mogote was usable fill failed to reasonably address the unpredictability of a mogote's hardness, the presence of extensive unsuitable rock material on the site, and the lack of soil borings. BCG was able to extract from the other on-site sources only 20% usable fill per cubic yard excavated. While these sources -- a pond, a canal, and the slopes of the eastern trending limestone ridge -- are not a perfect comparison for the adjacent mogote, according to the VA's consultant, the ridge contained the same geologic formation as the mogote. Mr. Jurado testified that the materials excavated from the slopes of the northeast trending line were full of rocks and muck. We believe these nearby on-site materials provide an appropriate benchmark, and, indeed, the only evidence of the proportion of suitable fill BCG likely would have obtained from the mogote had the excavation work not been deleted.

The most reliable estimate we have for the mogote's volume is from the licensed surveyor, Mr. Colón-Guzmán, who estimated the mogote as containing 76,387 cubic yards of material. Mr. Colón-Guzmán also estimated BCG would need 71,197 cubic yards of fill for the project. Ultimately, BCG used a total of 38,693 cubic yards of fill on the project, 7000 cubic yards of which it was able to obtain from sources in the cemetery and 31,693 cubic yards of which it brought onto the project from off-site as borrow.

Applying the yield of 20% usable fill per cubic yard to the 76,387 cubic yards volume of the mogote, we find the VA's deductive change effectively deprived BCG of

15,277 cubic yards of usable fill. The parties have stipulated that the borrow fill that was brought onto the project cost $15.24 per cubic yard.

Decision

These appeals are **GRANTED IN PART**. BCG is entitled to be compensated for 15,277 cubic yards of borrow fill at a cost of $15.24 per cubic yard for a total of $232,821.48. In addition, pursuant to the Contract Disputes Act, 41 U.S.C. § 611, BCG is entitled to interest on this amount from the date on which the contracting officer received its monetary claim, March 9, 2006, until the date of payment.

PATRICIA J. SHERIDAN
Board Judge

We concur:

ROBERT W. PARKER
Board Judge

RICHARD C. WALTERS
Board Judge

#18132 CBCA 5, 763 BEYLEYCONSTRUCTIONGROUPCORP DECISION.wpd 7/23/07 Reviewed By: PJS/CLH